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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/670,918	09/29/2000	Frederick F. Lange	1999-385-1	1891

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EXAMINER
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LAVILLA, MICHAEL E

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 04/10/2003

X

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/670,918

Applicant(s)

LANGE ET AL.

Examiner

LA VILLA

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Mar 3, 2003
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above, claim(s) 16-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 1 6) ☐ Other:

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election of Group I, Claims 1-15, in Paper No. 3 is acknowledged.  
Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 16-21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 3.
3. The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:
5. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
6. Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
  - I. Regarding Claims 1-15, in the Specification at page 10, under the heading of Supplemental Descriptive Material, applicant provides "descriptive information that elaborates upon and clarifies the claims." See lines 6-22 on page 10 of the Specification. It is unclear what is the relationship between these descriptions and the claimed subject matter. Does applicant intend to limit the claimed subject matter by

these descriptions? Is this description merely a disclosure of an embodiment, a preferred embodiment, a best mode, or something else?

- II. Regarding Claim 1, it is unclear what is meant by the phrase "the material(s) that do(es) not contain the compressive stresses possess(es) the largest volume fraction in the composite." When there is more than one of these materials, what volume fractions are to be compared? In the phrase "the dimension of materials that do not contain compressive stresses," it is unclear why the plural/singular dichotomy has been abandoned. Are these dimensions of previously mentioned "regions of the material(s)..."? Generally, is there a distinction between a region and a material? Is the word material used both to describe a composition of matter as well as provide a structural description? In the phrase "the dimension of the material(s) that do(es) not contain the compressive stresses," is this a reference to the dimension of regions? It is unclear what is the significance, if any, of retaining the singular/plural dichotomy here and not retaining it previously. It is unclear what is the antecedent basis of the phrase "the two materials." Which two materials are these?
- III. Regarding Claim 2, it is unclear what constitutes "sets of layers." What layers comprise a set?

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- IV. Regarding Claims 3 and 4, it is unclear what is the antecedent basis of the phrase "the compressive layers."
- V. Regarding Claims 7 and 8, it is unclear what is the relationship between the mentioned first, second, third, and fourth materials and the materials already mentioned in Claim 1.
- VI. Regarding claim 8, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).
- VII. Regarding Claim 9, line 4, Claim 10, line 4, Claim 11, line 4, and Claim 13, line 4, it is unclear what is the antecedent basis of the phrase "the materials." Regarding Claims 9-11, it is unclear what is meant by the phrase "chosen from a list that includes at least two materials that do not react together to form a third material." Virtually, any materials can be made to react under some conditions, and so it is unclear what is being claimed. What determines whether a material is a "third material"? Must the chosen materials not react or must merely some listed materials not react? It is unclear what is meant by the phrase "would arise." Do they arise or not? It is unclear what is meant by the phrase "this list including, but not limited to." What other materials may or may not be present?
- VIII. Regarding Claims 10 and 11, it is unclear what is meant by the phrase "the material(s) that do(es) not contain the compressive stresses

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do(es) contain another material that would impart an additional property important to mechanical strength and thus optimize factors that affect threshold strength . . . .” Does this phrase describe a dopant material or one of the “at least two materials” of Claim 1? Is this “another material” pertinent to each of the material(s) or only to at least one? Is there a significance to saying “would impart,” as opposed to “does impart”? Are certain conditions necessary? It is unclear what are these factors other than the listed ones. It is unclear what is the relationship between the claimed “optimize factors” and the presence of “another material.” Is a certain amount of “another material” necessarily present? What constitutes an optimum? It is unclear what is meant by the phrase “include, but are not limited to.” Are these examples that are part of the invention or not? Does “include, but not limited to” mean all of these factors as well as others simultaneously?

- IX. Regarding Claim 12, it is unclear what is meant by the phrase “one or more of the materials.” What is the antecedent basis of the phrase “the materials”?
- X. Regarding Claim 13, it is unclear what is meant by the phrase “not ceramics such as oxides, carbides, nitrides, or borides.” The phrase “such as” renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d). Could other ceramics be present? Would this

encompass polymers having ceramic filler? Does the phrase “would have” mean that there is a differential thermal contraction coefficient or that there is a differential thermal contraction coefficient only under some circumstances or something else?

XI. Regarding Claim 14, line 4, it is unclear what is the antecedent basis of the phrase “the materials.” Does excluding “ceramics and polymers” mean that no ceramic or polymeric material is present anywhere in the composite or something else? Does the phrase “would have” mean that there is a differential thermal contraction coefficient or mean that only under some circumstances is there a differential thermal contraction coefficient or something else?

XII. Regarding Claim 15, it is unclear what is the antecedent basis of the phrase “one of the materials that undergoes a crystallographic phase transformation during cooling.” Which of the recited materials is this? It is unclear what is meant by the phrase “including, but not limited to.” Are these materials necessarily present, possibly with others? Do these materials in combination define one of the “material(s)”? What is the significance of the phrase “would partially constrain”? Must the material constrain or only under some circumstances constrain? What is the “desired” compressive stress? Is this something other than greater than 100 MPa?

***Information Disclosure Statement***

7. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

***Specification***

8. The spacing of the lines of the specification is such as to make reading and entry of amendments difficult. New application papers with lines double spaced on good quality paper are required.

***Allowable Subject Matter***

9. The subject matter of Claims 1-15 does not appear to be anticipated or rendered obvious in view of the prior art of record and the otherwise reviewed prior art. Throop USP 4,197,360 and Sherman USP 6,489,036, which are cited in the accompanying PTO 892, do not teach the claimed relative and absolute thicknesses in conjunction with the claimed residual compressive stress.

**CONCLUSION**

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is



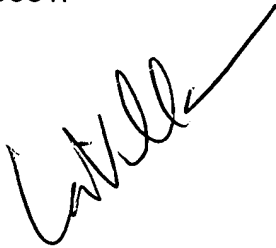
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(703) 308-4428. The examiner can normally be reached on Monday through Friday.

11. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (703) 308-3822. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

12. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Michael La Villa  
April 7, 2003

A handwritten signature in black ink, appearing to read 'La Villa', with a long horizontal stroke extending to the right.